

Attorney Docket Number: FSP0228
Client Reference Number: 232362US
Title: DWDM catv return system with up-converters to prevent fiber crosstalk
Application Number: 09/474,299

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Claims

This listing of claims replaces all prior versions and listings of claims in the present application.

Claims 1-57 (Cancelled)

58. (New) An optical apparatus, comprising:

a forward signal converter configured to receive multiple forward optical signals from multiple optical fibers in a hybrid fiber coax network; and

the forward signal converter configured to upconvert at least some of the multiple forward optical signals and to combine the multiple forward optical signals into a first frequency band that is less than or equal to approximately one octave wide.

59. (New) The optical apparatus of claim 58, further comprising:

the first frequency band from approximately 550MHz to 1100MHz.

60. (New) The optical apparatus of claim 58, further comprising:

a return signal converter configured to receive multiple return optical signals each within a second frequency band;

the return signal converter configured to upconvert some of the received return optical signals to a third frequency band; and

the return signal converter configured to upconvert other of the received return optical signals to a fourth frequency band non-overlapping with the third frequency band.

61. (New) The optical apparatus of claim 60, further comprising:

the third frequency band and the fourth frequency band each less than or equal to approximately an octave wide.

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62. (New) The optical apparatus of claim 60, further comprising:
the third frequency band and the fourth frequency band each less than or equal to approximately half an octave wide.

63. (New) The optical apparatus of claim 62, further comprising:
the second frequency band being approximately 100-200MHz;
the third frequency band being approximately 400-600MHz; and
the fourth frequency band being approximately 600-900MHz.

64. (New) An optical apparatus comprising:
a plurality of receivers to receive a plurality of first optical signals from different optical fibers,
each of the first optical signals having a first frequency band;
at least one up-converter configured to
 upconvert some of the first optical signals to a second frequency band,
 and to upconvert other of the first optical signals to a third frequency band,
wherein the second and third frequency bands are each less than or equal to approximately an octave wide.

65. (New) The optical apparatus of claim 64, further comprising:
the second and third frequency bands are each less than or equal to approximately half an octave wide.

66. (New) The optical apparatus of claim 64, further comprising:
the plurality of receivers configured to receive second optical signals from multiple optical fibers in a hybrid fiber coax network; and
the forward signal converter configured to upconvert at least some of the second optical signals and to combine the second optical signals into a fourth frequency band that is less than or equal to approximately one octave wide.